

Exhibit A

Marked Up Versions of Amended Paragraphs:

On page 20, please replace the paragraph beginning “E.coli XL1 Blue x pBTaqEc1:...” with the following paragraph:

E.coli XL1 Blue x pBTaqEc1: **TaqEc1** (SEQ ID NO:1) DSM No. 12053

On page 20, please replace the paragraph beginning “E.coli XL1 Blue x pBTaqTne1:...” with the following paragraph:

E.coli XL1 Blue x pBTaqTne1: **TaqTne1** (SEQ ID NO: 3) DSM No. 12050

On page 20, please replace the paragraph beginning “E.coli XL1 Blue x pBTaqTne2:...” with the following paragraph:

E.coli XL1 Blue x pBTaqTne2: **TaqTne2** (SEQ ID NO: 4) DSM No. 12051

On page 20, please replace the paragraph beginning “E.coli XL1 Blue x pBTaqPfu1:...” with the following paragraph:

E.coli XL1 Blue x pBTaqPfu1: **TaqPfu1** (SEQ ID NO: 5) DSM No. 12052

On page 35, please replace the table beginning:

| Enzyme | Temperature [°C] | | | | | |
|-------------|------------------|---------|---------|---------|---------|---------|
| | 25 | 37 | 50 | 60 | 72 | 80 |
| TaqPol(BM) | 0.0 | 0.0 | 5764.4 | 8489.1 | 50000.0 | 57986.1 |
| NHIs-TaqPol | 0.0 | 0.0 | 5616.1 | 12165.2 | 60843.7 | 74784.4 |
| TaqEc1 | 704.9 | 10353.4 | 50066.5 | 41034.4 | 2677.5 | 1016.2 |
| TaqTne1 | 0.0 | 2559.4 | 15967.0 | 18900.4 | 1100.0 | 0.0 |
| TaqTne2 | 747.2 | 5180.2 | 23549.6 | 30627.3 | 64139.1 | 28727.4 |



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With the following table:

| Enzyme | Temperature [°C] | | | | | |
|------------------------|------------------|---------|---------|---------|---------|---------|
| | 25 | 37 | 50 | 60 | 72 | 80 |
| TaqPol(BM) | 0.0 | 0.0 | 5764.4 | 8489.1 | 50000.0 | 57986.1 |
| NHIs-TaqPol | 0.0 | 0.0 | 5616.1 | 12165.2 | 60843.7 | 74784.4 |
| TaqEc1 (SEQ ID NO: 1) | 704.9 | 10353.4 | 50066.5 | 41034.4 | 2677.5 | 1016.2 |
| TaqTne1 (SEQ ID NO: 3) | 0.0 | 2559.4 | 15967.0 | 18900.4 | 1100.0 | 0.0 |
| TaqTne2 (SEQ ID NO: 4) | 747.2 | 5180.2 | 23549.6 | 30627.3 | 64139.1 | 28727.4 |

On page 36, please replace the table beginning:

| Enzyme | 1 min | 3 min | 6 min | 1 min | 3 min | 6 min |
|-------------|-------|-------|-------|-------|-------|-------|
| | 80°C | 80°C | 80°C | 95°C | 95°C | 95°C |
| TaqPol(BM) | 100 | 100 | 100 | 100 | 100 | 100 |
| NHIs-TaqPol | 100 | 100 | 100 | 100 | 100 | 100 |
| TaqEc1 | 0 | 0 | 0 | 0 | 0 | 0 |
| TaqTne1 | 16 | 0 | 0 | 0 | 0 | 0 |
| TaqTne2 | 100 | 100 | 100 | 92 | 0 | 0 |

With the following table:

| Enzyme | 1 min | 3 min | 6 min | 1 min | 3 min | 6 min |
|------------------------|-------|-------|-------|-------|-------|-------|
| | 80°C | 80°C | 80°C | 95°C | 95°C | 95°C |
| TaqPol(BM) | 100 | 100 | 100 | 100 | 100 | 100 |
| NHIs-TaqPol | 100 | 100 | 100 | 100 | 100 | 100 |
| TaqEc1 (SEQ ID NO: 1) | 0 | 0 | 0 | 0 | 0 | 0 |
| TaqTne1 (SEQ ID NO: 3) | 16 | 0 | 0 | 0 | 0 | 0 |
| TaqTne2 (SEQ ID NO: 4) | 100 | 100 | 100 | 92 | 0 | 0 |

On page 37, please replace the paragraph beginning “**Example 6: 3'-5' exonuclease...**” with the following paragraph:

Example 6: 3'-5' exonuclease test - TaqEc1 (SEQ ID NO: 1) variant

On page 38, please replace the paragraph beginning “**Example 7: Correction of 3'-mismatched primers...**” with the following paragraph:

Example 7: Correction of 3' -mismatched primers and their extension - TaqEc1 (SEQ ID NO: 1) variant (3' -mismatch primer correction assay)